

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau(43) International Publication Date  
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number  
WO 2004/109132 A1(51) International Patent Classification<sup>7</sup>: F16C 17/03[GB/GB]; 50 Lincoln Road, Branston, Lincoln LN4 1PA  
(GB).

(21) International Application Number: PCT/EP2004/003766

(74) Agent: FRENCH, Clive, Harry; Siemens AG., P.O. Box  
22 16 34, 80506 Munich. (DE).

(22) International Filing Date: 8 April 2004 (08.04.2004)

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW).

(26) Publication Language: English

(Continued on next page)

(30) Priority Data:  
0313134.9 7 June 2003 (07.06.2003) GB

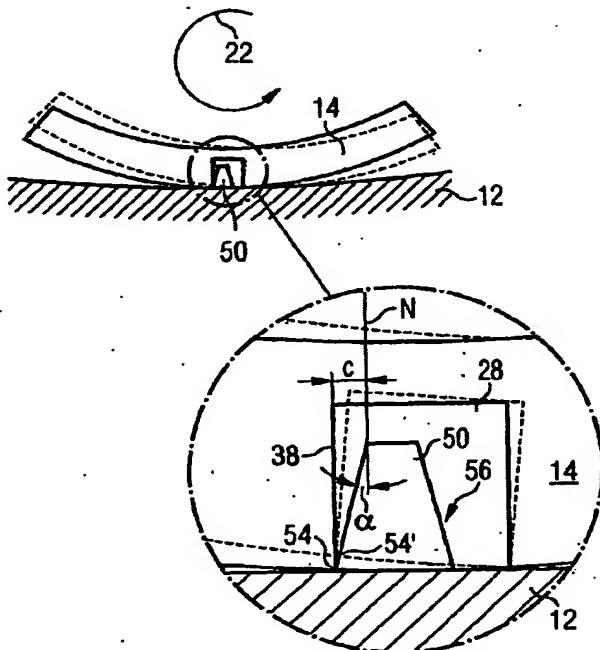
0313929.2 17 June 2003 (17.06.2003) GB

(71) Applicant (for all designated States except US): DEMAG  
DELAVAL INDUSTRIAL TURBOMACHINERY  
LIMITED [GB/GB]; Ruston House, Waterside South,  
Lincoln, Lincolnshire LN5 7FD (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SHEPHERD, Andrew

(54) Title: TILT PAD BEARING ASSEMBLY



(57) **Abstract:** The invention provides a radial tilt pad bearing assembly comprising: an outer carrier (12); a plurality of tilt pads (14) retained within the outer carrier; and a corresponding plurality of retaining pins (50) to retain the tilt pads in given circumferential positions, each fixed in the bearing assembly outer carrier so as to abut a side face (38) of a cavity (28) in the corresponding tilt pad. At least one retaining pin (50) and the corresponding cavity (28) are respectively shaped such that, when in use, a clearance (c) in a plane transverse to the axes of the bearing assembly and the tilt pad between the retaining pin (50) and the side face (38) is lesser at a first location (54) which lies substantially at the inner surface of the carrier (12), than at all corresponding locations at radially inner portions of the side face, with respect to the first location. A contact point (54, 54') between the retaining pin (50) and the tilt pad (14) when in use, lies substantially at the inner surface of the outer carrier (12). The tilt pad (14) is accordingly able to tilt without being substantially displaced circumferentially about the outer carrier (12).

WO 2004/109132 A1